

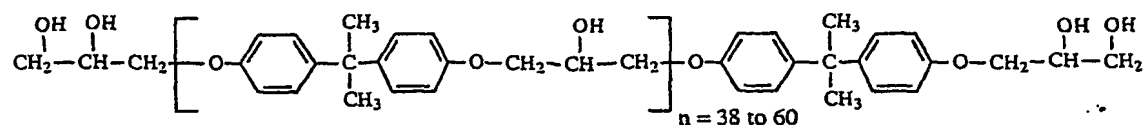
**WHAT IS CLAIMED IS:**

- 1           1.     An elongate hollow fibre polymeric membrane having an outer surface, a  
2     plurality of pores and a pore size gradient increasing radially inwardly such that said pores  
3     form a substantially hollow passage in said fibre.
- 1           2.     The hollow fibre membrane of claim 1, wherein said pores are convergent at a  
2     point radially inwardly of the outer surface.
- 1           3.     The hollow fibre membrane of claim 1, wherein the substantially hollow  
2     passageway is disposed around a longitudinal axis of said hollow fibre polymeric membrane.
- 1           4.     The hollow fibre membrane of claim 1, wherein the polymeric membrane  
2     material is a polymeric material which forms an asymmetric membrane.
- 1           5.     A filtration cartridge comprising a plurality of hollow fibre membranes as in any  
2     one of claims 1-4.
- 1           6.     A method of making an elongate hollow fibre polymeric membrane comprising  
2     the steps of:
  - 3           (i)     mixing a liquid lumen-forming agent with a polymer dope;
  - 4           (ii)    contacting said dope with a quench fluid for a time sufficient to solidify  
5                   said dope; and wherein  
6                   said quench fluid is contacted only at an outer surface of said dope  
7                   corresponding with an outer surface of said hollow fibre.
- 1           7.     The method of claim 6, wherein the liquid lumen-forming agent is greater than  
2     0% and less than 100% soluble in water.
- 1           8.     The method of claim 7, wherein the solubility of the liquid-lumen forming  
2     agent is around 10% in water.

- 1           9.     The method of claim 6, wherein the liquid lumen-forming agent has a log of  
2 partition coefficient in octanol/water ( $\text{LogK}_{\text{ow}}$ ) of between 0 and 1.5.
- 1           10.    The method of claim 9, wherein the liquid-lumen-forming agent has a  $\text{LogK}_{\text{ow}}$   
2 of between about 0.75 and about 0.95.
- 1           11.    The method of claim 9, wherein the liquid-lumen forming agent has a  $\text{LogK}_{\text{ow}}$   
2 of about 0.8.
- 1           12.    The method of claim 6, wherein the liquid lumen-forming agent is at least one  
2 selected from the group consisting of cyclohexanones, ethoxy propylacetates (EPA),  
3 methoxypropylacetates (PMA) and dibasic esters (DBE).
- 1           13.    The method of claim 6, wherein said polymer dope comprises a fibre-forming  
2 polymeric material which forms an asymmetric membrane.
- 1           14.    The method of claim 13, wherein the polymer dope comprises can contain as a  
2 fibre-forming polysulfone (PSU).
- 1           15.    The method of claim 14, wherein the fibre-forming polysulfone is at least one  
2 selected from the group consisting of polyethersulfones (PES) and polyphenylsulphone  
3 (PPSU).
- 1           16.    The method of claim 15, wherein the polymer dope comprises a N-  
2 methylpyrrolidone solvent.
- 1           17.    The method of claim 6, wherein the polymer dope comprises a phenoxy resin.
- 1           18.    The method of claim 17, wherein the phenoxy resin comprises ether linkages  
2 and pendant hydroxy groups.

1            19.    The method of claim 18, wherein the phenoxy resin comprises phenol,4,4' -(1-  
2 methylenediamine) bispolymer with chloromethyloxirane, modified phenoxy resins or  
3 dimethylethanolamine salts thereof.

20.    The method of claim 18, wherein the phenoxy resin comprises:



1            21.    The method of claim 6, wherein the dope comprises an elasticity-enhancing  
2 additive.

1            22.    The method of claim 6, wherein the quench liquid comprises a hydrophilic non-  
2 solvent for the polymer.

1            23.    The method of claim 22, wherein the quench liquid comprises water.

1            24.    An elongate hollow fibre polymeric membrane made by the method of any one  
2 of claims 6-23.

1            25.    A hollow fibre polymeric membrane having an outer surface formed at a  
2 dope/non-solvent interface of a diffusion induced phase separation (DIPS) process and an inner  
3 lumen formed by convergence of membrane pores about a hydrophobic liquid lumen-forming  
4 agent.